

Appl. No. 10/090,494
Amdt. Dated August 27, 2004
Reply to Office Action of May 28, 2004
Attorney Docket No. 10972 P07

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (original) A sensor rail device for seat position detection, comprising:

(a) an elongated upper rail body to partially and fixedly support a seat thereon;

(b) an elongated stationary lower rail body which slidably engages and supports said upper rail body such that said upper rail body can axially slide on said lower rail body;

(c) a position sensor device fixedly mounted on said upper rail body; and

(d) a contact plate member having a predetermined length, which is secured to said lower rail body at a location to be contacted by said position sensor device as the position sensor device moves along said lower rail body,

said position sensor device comprising:

(i) a pivotal contact lever device having a magnet member which generates a magnetic field, said contact lever device contacting said contact plate member within a predetermined range along said lower rail body, angularly displacing said magnetic field; and

(ii) a stationary magnetic field sensor device which detects angular displacement of said magnetic field, outputting seat positional data to be electronically processed into seat positional signals.

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2. (original) A sensor rail device for seat position detection, comprising:

- (a) an elongated upper rail body to partially and fixedly support a seat thereon;
- (b) an elongated stationary lower rail body which slidably engages and supports said upper rail body such that said upper rail body can axially slide on said lower rail body;
- (c) a position sensor device fixedly mounted on said lower rail body; and
- (d) a contact plate member having a predetermined length, which is secured to said upper rail body at a location to be contacted by said position sensor device as the contact plate member moves along said lower rail body,

said position sensor device comprising:

- (i) a pivotal contact lever device having a magnet member which generates a magnetic field, said contact lever device contacting said contact plate member within a predetermined range along said upper rail body, angularly displacing said magnetic field; and
- (ii) a stationary magnetic field sensor device which detects angular displacement of said magnetic field, outputting seat positional data to be electronically processed into seat positional signals.

3. (original) A sensor rail device according to claim 1 or 2, wherein said contact lever device is biased by biasing means toward an angular position.

4. (original) A sensor rail device according to claim 1 or 2, wherein said position sensor device is at least partially housed in a bracket member.

5. (original) A sensor rail device according to claim 1 or 2, wherein said contact plate member comprises a plurality of pins.

6. (original) A sensor rail device according to claim 1 or 2, wherein said contact plate member is provided in a double-step configuration.

7. (original) A sensor rail device according to claim 1 or 2, wherein said contact plate member is slanted.

8. (currently amended) The ~~seat rail system comprising~~ a sensor rail device according to claim 1 further comprising:

another elongated upper rail body to partially and fixedly support the seat thereon; and

another elongated stationary lower rail body which slidably engages and supports said another upper rail body such that said another upper rail body can axially slide on said another lower rail body, and a seat rail member

which is are provided in parallel with said elongated upper rail body and said elongated stationary lower rail body for sensor rail device, said sensor rail device and said seat rail member fixedly supporting said the seat together.

9. (currently amended) The ~~seat rail system comprising~~ a sensor rail device according to claim 2 further comprising:

another elongated upper rail body to partially and fixedly support the seat thereon; and

another elongated stationary lower rail body which slidably engages and supports said another upper rail body such that said another upper rail body can axially slide on said another lower rail body, and a seat rail member

which is are provided in parallel with said elongated upper rail body and said elongated stationary lower rail body for sensor rail device, said sensor rail device and said seat rail member fixedly supporting said the seat together.

10. (currently amended) The ~~seat rail system comprising~~ a sensor rail device according to claim 3 further comprising:

another elongated upper rail body to partially and fixedly support the seat thereon; and

another elongated stationary lower rail body which slidably engages and supports said another upper rail body such that said another upper rail body can axially slide on said another lower rail body, and a seat rail member

which is are provided in parallel with said elongated upper rail body and said elongated stationary lower rail body for sensor rail device, said sensor rail device and said seat rail member fixedly supporting said the seat together.

11. (currently amended) The ~~seat rail system comprising~~ a sensor rail device according to claim 4 further comprising:

another elongated upper rail body to partially and fixedly support the seat thereon; and

another elongated stationary lower rail body which slidably engages and supports said another upper rail body such that said another upper rail body can axially slide on said another lower rail body, and a seat rail member

which is are provided in parallel with said elongated upper rail body and said elongated stationary lower rail body for sensor rail device, said sensor rail device and said seat rail member fixedly supporting said the seat together.

12. (currently amended) The ~~seat rail system comprising~~ a sensor rail device according to claim 5 further comprising:

another elongated upper rail body to partially and fixedly support the seat thereon; and

another elongated stationary lower rail body which slidably engages and supports said another upper rail body such that said another upper rail body can axially slide on said another lower rail body, and a seat rail member

which is are provided in parallel with said elongated upper rail body and said elongated stationary lower rail body for sensor rail device, said sensor rail device and said seat rail member fixedly supporting said the seat together.

13. (currently amended) The seat rail system comprising a sensor rail device according to claim 6 further comprising:

another elongated upper rail body to partially and fixedly support the seat thereon; and

another elongated stationary lower rail body which slidably engages and supports said another upper rail body such that said another upper rail body can axially slide on said another lower rail body, and a seat rail member

which is are provided in parallel with said elongated upper rail body and said elongated stationary lower rail body for sensor rail device, said sensor rail device and said seat rail member fixedly supporting said the seat together.

14. (currently amended) The seat rail system comprising a sensor rail device according to claim 7 further comprising:

another elongated upper rail body to partially and fixedly support the seat thereon; and

another elongated stationary lower rail body which slidably engages and supports said another upper rail body such that said another upper rail body can axially slide on said another lower rail body, and a seat rail member

which is are provided in parallel with said elongated upper rail body and said elongated stationary lower rail body for sensor rail device, said sensor rail device and said seat rail member fixedly supporting said the seat together.

15. (cancelled)